

Flora of the State Park, Orient, Long Island, N. Y.

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Long Beach, Orient, Long Island, the site of a new State Park, is a peninsula connected at the easterly end with the main body of Orient and thence extending in a westerly direction for approximately three miles between Gardiner's Bay on the south and Little Bay, Eagle Neck channel, Long Beach Bay, Peter's Neck channel and Peconic Bay on the north. The tract terminates on the west in a sandy spit known as Long Beach bar. On this point is situated one of the largest tern colonies in the state, where two species breed, the Common and Roseate Tern.

The approach to the park from the east is a narrow beach between two bays. This beach is vegetated by clumps of sand-reed, *Ammophila arenaria*, dwarf, prostrate shrubs of beach plum, *Prunus maritima*, red cedar, *Juniperus virginiana*, spurge, *Chamaesyce polygonifolia*, and various other maritime weeds, principally adventive. Along the Little Bay margin, on the west, occur salt-marsh spurry, *Tissa marina*, glasswort, *Salicornia*, and a rank growth of smooth salt marsh-grass *Spartina stricta*. This approach to the park has been elevated by loam and the causeway has altered or obliterated many of the natural conditions on this neck.

The park proper broadens in series of westerly ridges of sand and gravel; between these ridges are depressions of salt marshes and salt water ponds. About midway of the length is a narrow neck of beach known as the Narrows. The two sections are known locally as East and West Long Beach. The larger of the ponds in the east section is known as the East Pond and the largest in the west section as the West Pond. The interesting ruins of a fertilizer factory, which operated in the eighties, lie between the West Pond and the tern colony.

Parallel with the Gardiner's Bay shore on the south is a higher level of beach sand and gravel. The characteristic flora on this southerly exposure are beach sandwort, *Honkenya peploides*, wild pink, *Silene caroliniana*, beach pea, *Lathyrus maritimus*, wild rose, *Rosa virginiana*, false heather, *Hudsonia tomentosa*, beach pin-weed, *Lechea maritima*, coast jointweed, *Polygonella articulata*, *Prunus maritima*, poison ivy, *Toxico-*

dendron radicans, bayberry, *Myrica carolinensis*, cactus, *Opuntia Opuntia*, and *Juniperus virginiana*. The red cedar here, especially where it is under the influence of the strong sea winds, forms a prostrate growth of unusual interest. Plants of the cedar of only three to six feet in height have a diameter of ten to a maximum of nearly fifty feet and are quite circular in form. Some of these trees are very old and fruit heavily, affording abundance of food and shelter for birds which commonly winter there. It is to be regretted that the constructors of the development of the park saw fit to trim and thin severely this shelter, allowing the winter gales to seeth through, thus destroying this natural protection which was one of the main attractions for birdlife there on the beach, as has been observed by the writer for thirty years.

The soil throughout the park is sand and gravel. There is no shifting of sand on Long Beach as is prevalent on a typical sand dune. There is a slight accumulation of surface humus in the more wooded areas. The deposit of trash is heavy within the limits of flood tides.

No fresh-water ponds or springs occur on the beach, except three small artificial holes dug years ago when the beach was used for a cattle run. Therefore, fresh-water swamp flora is practically unknown on the beach.

On the ridges are found post oak, *Quercus stellata*, black oak, *Quercus velutina*, pitch pine, *Pinus rigida* and the other species mentioned above. In the gravelly salt marshes between the ridges are a heavy growth of marsh elder, *Iva frutescens*, groundsel-bush, *Baccharis halimifolia* and the salt marsh grasses and sedges, *Distichlis spicata*, *Spartina Michauxiana*, *Spartina patens*, *Spartina stricta*, and black-grass, *Juncus Gerardi*. The Narrows is vegetated by a covering of low-growth species which have been mentioned above.

The beach is rich in dry-soil mosses and lichens, especially the Cladoniae. *Cladonia alpestris* is found there, one of the two known stations on Long Island for this northern species. The bark lichens are also well represented there, as are the marine algae and certain groups of fungi.

Among the higher plants found on the park the following are noteworthy as species of rare occurrence or unknown elsewhere on eastern Long Island. These are:

Selaginella rupestris. Rare in two small colonies; growing on pure beach sand among red cedars. The only locality for this species known to the writer for Long Island.

Fimbristylis castanea. One small colony in salt marsh. The only station in the township of Southold.

Vagnera stellata. Very common over most of the ridges.

Polygonum tenue. Rare. Gravelly knolls in salt marshes. Only one other station in the Southold Flora.

Chenopodium leptophyllum. Rare.

Aquilegia canadensis. Two localities. The only Orient stations.

Arabis glabra. Common. Unknown to the writer elsewhere on the North Fork of Long Island.

Draba caroliniana. Rare. Known from only one other station on eastern Long Island.

Robertiella Robertiana. Rare; growing in beach sand. Known from one other station on eastern Long Island.

Ligusticum scoticum. Very common. This handsome Ammiaceae, a characteristic plant of Orient, if found in three localities on Long Island, and Orient is the only station in the state where it is abundant. It is a growth of brackish borders of woods and higher edges of salt meadows. It is found throughout the park in suitable situations.

Among the introduced species of interest found on the park are: *Allionia linearis*, *Cerastium semidecandrum*, *Holosteum umbellatum*, *Glaucium Glaucium*, *Rosa rugosa*, *Onopordon Acanthium*.

All ferns are rare on the beach, although *Pteridium aquilina* is general in higher places. *Polypodium vulgare* and *Polystichum acrostichoides* are local and rare.

The following families represent the native flora of the new State Park except where otherwise noted. The nomenclature follows the order of the Illustrated Flora by Britton and Brown. Second Edition.

Polypodiaceae

Polystichum acrostichoides (Michx.) Schott. Very rare.

Pteridium aquilinum (L.) Kuhn. Not common.

Polypodium vulgare L. Very rare.

Selaginellaceae.

Selaginella rupestris (L.) Spring. As noted above.

Pinaceae.

Pinus rigida Mill. Common.

Juniperus virginiana L. Very common. Typical growth rare.

Zannichelliaceae.

Ruppia maritima L. Common. Salt-water ponds.

Zosteraceae.

Zostera marina L. Formerly abundant. Now unknown as a living species.

Scheuchzeriaceae.

Triglochin maritima L. Rare. Salt meadows.

Gramineae.

Schizachyrium scoparium (Michx.) Nash. Common.

Schizachyrium littorale (Nash) Bickn.

Paspalum Muhlenbergii Nash. Rare.

Paspalum pubescens Muhl. Rare.

Panicum capillare L. Common.

Panicum virgatum L. Very Common.

Panicum depauperatum Muhl. Rare.

Panicum sphaerocarpon Ell. Not common.

Panicum dichotomum L. Common.

Panicum huachucae Ashe. Common.

Panicum Commonsianum Ashe. Rare.

Panicum Scribnerianum Nash. Common.

Chaetochloa umberis (Poir.) Scribn. Common. Salt marshes.

Cenchrus tribuloides L. Rare.

Savastana odorata (L.) Scribn. Rare. Salt meadows.

Muhlenbergia Schreberi Gmel. Rare.

Sporobolus asper (Michx.) Kunth. Rare.

Agrostis maritima Lam. Common. Salt meadows.

Agrostis hyemalis (Walt.) B. S. P. Common. Dry ridges.

Ammophila arenaria (L.) Link. Common.

Danthonia spicata (L.) Beauv. Common.

Spartina Michuxiana Hitchc. Common.

Spartina patens (Ait.) Muhl. Very common.

Spartina stricta (Ait.) Roth. Very common.

Triplasis purpurea (Walt.) Chapm. Rare.

Eragrostis pectinacea (Michx.) Steud. Rare.

Distichlis spicata (L.) Greene. Very common.

Festuca octoflora Walt. Rare.

Festuca rubra L. Rare.

Elymus halophilus Bickn. Common. Salt marshes.

Cyperaceae.

Cyperus filicinus Vahl. Very common.

Cyperus strigosus L. Common.

- Cyperus filiculmis* Vahl. Common.
Cyperus Grayi Torr. Rare.
Stenophyllus capillaris (L.) Britton.
Fimbristylis castanea (Michx.) Vahl. See note above.
Scirpus nanus Spreng. Rare. Salt marshes.
Scirpus americanus Pers. Common.
Scirpus robustus Pursh. Rare.
Carex hormathodes Fernald. Rare.
Carex silicea Olney. Common.
Carex pennsylvanica Lam. Common.
Carex Swanii (Fern.) Macke.

Juncaeae.

- Juncus Gerardi* Lois. Very common.
Juncus tenuis Willd. Rare.
Juncus Greenei Oakes. & Tuck. Rare
Juncoides campestre (L.) Kuntze.

Liliaceae.

- Asparagus officinalis* L. Introduced. Rare.
Vagnera racemosa (L.) Morong. Rare.
Vagnera stellata (L.) Morong. Very common. See note above.
Unifolium canadense (Desf.) Greene. Local.
Uvularia sessilifolia L. Rare.
Polygonatum commutatum L. Rare.

Smilacaeae.

- Smilax herbacea* L. Rare.
Smilax rotundifolia L. Rare.

Orchidaceae.

None recorded from the area.

Juglandaceae.

- Hicoria glabra* (Mill.) Britton. Very rare.

Myricaceae.

- Myrica carolinensis* (Mill.) Very common.

Fagaceae.

- Quercus velutina* Lam. Local.
Quercus stellata Wang. Very common.

Ulmaceae.

- Celtis occidentalis* L. Not common.

Polygonaceae.

- Polygonum exsertum* Small. Rare.

- Polygonum buxiforme* Small. Common.
Polygonum tenue Mx. Rare. See note above.
Polygonum prolificum (Small.) Robi. Common. Salt marshes.
Polygonum atlanticum (Robi.) Bick. Rare. Shores.
Persicaria pennsylvanica (L.) Small. Rare.
Tinaria scandens (L.) Small. Rare.
Polygonella articulata (L.) Meisn.

Chenopodiaceae.

- Chenopodium leptophyllum* (Moq.) Nutt. Rare. See note above.
Chenopodium hybridum. Local.
Atriplex hastata L. Common.
Salicornia europaea L. Common.
Salicornia Bigelovii Torr. Rare.
Salicornia ambigua Michx. Very common.
Dondia linearis (Ell.) Heller. Common.
Dondia maritima (L.) Druce. Common.
Salsola Kali L. Common.

Phytolaccaceae.

- Phytolacca americana* L. Very rare.

Nyctaginaceae.

- Allionia linearis* Prush. Adventive. Rare. See note above.

Alsiniaceae.

- Cerastium semidecandrum* L. Introduced. Rare. See note above.
Holosteum umbellatum L. Introduced. Rare. See note above.
Arenaria serpyllifolia L. Introduced. Very common.
Moehringia lateriflora (L.) Fenzl. Common.
Honkenya peploides (L.) Ehrh. Common.
Tissa marina (L.) Britt. Very common.

Caryophyllaceae.

- Silene caroliniana* Walt. Common.
Silene antirrhina L. Not common.

Ranunculaceae.

- Aquilegia canadensis* L. Two stations. See note above.
Thalictrum revolutum DC. Very rare.

Lauraceae.

- Sassafras Sassafras* (L.) Karst. Not common.

Papaveraceae.

- Glaucium Glaucium* (L.) Karst. Introduced. Locally common.

Cruciferae.

- Draba caroliniana* Walt. Rare. See note above.
Draba verna L. Introduced. Very common.
Arabis glabra (L.) Bernh. Common. See note above.
Cardamine parviflora L. Rare.
Cakile edentula (Bigel.) Hook. Common.

Rosaceae.

- Potentilla canadensis* L. Common.
Argentina Anserina (L.) Rydb. Very rare.
Fragaria virginiana Duche. Rare.
Agrimonia gryposepala Wallr. Very rare.
Geum canadense Jacq. Very rare.
Rubus procumbens Muhl. Rare.
Rosa virginiana Mill. Very common.
Rosa rugosa Thunb. Introduced. Rare.

Malaceae.

- Malus Malus* (L.) Britt. Introduced. Rare.
Amelanchier canadensis (L.) Medic. Very common.
Crataegus Crus-galli L. Very rare.

Amygdalaceae.

- Prunus maritima* Wang. Very common. See notes above.
Padus virginiana (L.) Mill. Rare.

Caesalpiniaceae.

- Chamaerhiza fasciculata* (Michx.) Greene. Common.

Fabaceae.

- Lespedeza capitata* Michx. Very rare.
Lathyrus maritimus (L.) Bigel. Very common.
Strophostyles helvola (L.) Britt. Common.

Geraniaceae.

- Robertiella Robertiana* (L.) Hanks. Rare and local. See note above.
Geranium maculatum L. Very rare.

Oxalidaceae.

- Xanthoxalis stricta* (L.) Small. Common.

Polygalaceae.

- Polygala verticillata* L. Not common.
Polygala ambigua Nutt. Rare.

Euphorbiaceae.

- Acalypha gracilens* A. Gray. Rare.
Chamaesyce polygonifolia (L.) Small. Common.

Anacardiaceae.

Rhus copallina L. Common.

Rhus glabra L. Rare.

Toxicodendron radicans (L.) Kuntze. Very common.

Ilicaceae.

Ilex verticillata (L.) A. Gray. Rare.

Celastraceae.

Celastrus scandens. Very rare.

Vitaceae.

Parthenocissus quinquefolia (L.) Planch. Common.

Tiliaceae.

Tilia americana L. Very rare.

Hypericaceae.

Hypericum mutilum L. Rare.

Hypericum canadense L. Rare.

Sarothra gentianoides L. Very common.

Cistaceae.

Hudsonia tomentosa Nutt. Very common.

Lechea maritima Leg. Very common.

Violaceae.

Viola fimbriatula J. B. Smith. Very rare.

Cactaceae.

Opuntia Opuntia (L.) Cult. Common.

Onagraceae.

Oenothera biennis L. Common.

Oenothera Oakesiana Robbins. Common.

Kneiffia fruticosa (L.) Raima. Common.

Circaea lutetiana L. Very rare.

Araliaceae.

Aralia nudicaulis L. Rare.

Ammiaceae.

Sanicula marylandica L. Very rare.

Heracleum lanatum Michx. Very rare.

Ligusticum scoticum L. Very common. See note above.

Pyrolaceae.

Chimaphila maculata (L.) Pursh. Very rare.

Chimaphila umbellata (L.) Nutt. Very rare.

Monotropaceae.

Monotropa uniflora L. Very rare.

Hypopitys lanuginosa (Michx.) Nutt. Very rare.

Ericaceae.

Uva-Ursi Uva-Ursi (L.) Britt. Very common.

Vacciniaceae.

Gaylussacia baccata (Wang.) K. Koch. Very rare.

Vaccinium vacillans Kalm. Very rare.

Primulaceae.

Samolus floribundus H. B. K. Very rare.

Lysimachia quadrifolia L. Rare.

Trientalis americana Pursh. Rare.

Plumbaginaceae.

Limonium carolinianum (Walt.) Britt. Very common.

Gentianaceae.

Sabbatia stellaris Pursh. Very common.

Asclepiadaceae.

Asclepias syriaca L. Very rare.

Asclepias verticillata. Very rare.

Convolvulaceae.

Convolvulus sepium L. Very common.

Boraginaceae.

Onosmodium virginianum (L.) DC. Very rare.

Verbenaceae.

Verbena urticifolia L. Rare.

Labiatae.

Teucrium littorale Bickn. Very common.

Trichostema dichotomum L. Rare.

Lycopus virginicus L. Very rare.

Solanaceae.

Solanum nigrum L. Rare. Probably introduced.

Solanum Dulcamara L. Introduced. Rare.

Scrophulariaceae.

- Linaria canadensis* (L.) Dumort. Very common.
Scrophularia leporella Bick. Very rare.
Dasystema virginica (L.) Britt. Rare.
Agalinis purpurea (L.) Britt. Rare.
Agalinis maritima Raf. Rare and local in salt marches.
Pedicularis canadensis L. Very rare.
Melampyrum lineare Lam. Rare.

Plantaginaceae.

- Plantago halophila* Bickn. Common.
Plantago maritima L. Very common.

Caprifoliaceae.

- Sambucus canadensis* L. Common.
Triosteum perfoliatum L. Very rare.

Campanulaceae.

- Specularia perfoliata* (L.) A. DC. Rare.

Lobeliaceae.

- Lobelia inflata* L. Rare.

Cichoriaceae.

- Krigia virginica* (L.) Willd. Rare.
Lactuca canadensis L. Rare
Hieracium Gronovii L. Rare.
Hieracium venosum L. Rare.
Nabalus trifoliatum Cass.

Ambrosiaceae.

- Iva frutescens* L. Very common. See note above.
Ambrosia elatior L. Common.
Xanthium commune Britt. Common.

Compositae.

- Lacinaria scariosa* (L.) Hill. Very rare.
Chrysopsis falcata (Pursh.) Ell. Not common.
Solidago caesia L. Very rare.
Solidago bicolor L. Very common.
Solidago sempervirens L. Very common.
Solidago odora Ait. Rare.
Solidago rugosa Mill. Rare.
Solidago altissima L. Very rare.
Solidago juncea Ait. Very rare.
Solidago nemoralis Ait. Very rare.
Euthamia graminifolia (L.) Nutt. Very rare.
Sericocarpus asteroides (L.) B.S.P. Very rare.

- Aster undulatus* L. Rare.
Aster patens Ait. Rare.
Aster novi-belgii L. Rare.
Aster multiflorus Ait. Common.
Aster dumosus L. Rare.
Aster tenuifolius L. Common.
Aster subulatus Michx. Not common.
Erigeron pulchellus Michx. Rare.
Erigeron ramosus (Walt.) B.S.P. Common.
Leptilon canadense (L.) Britt. Common.
Doellingeria umbellata (Mill.) Nees. Very rare.
Ionactis linariifolius (L.) Greene. Not common.
Baccharis halimifolia L. Very common. See note above.
Pluchea camphorata (L.) DC. Common.
Antennaria plantaginifolia (L.) Rich. Rare.
Gnaphalium obtusifolium L. Very common.
Gnaphalium uliginosum L. Rare.
Helianthus giganteus L. Very rare.
Helianthus divaricatus L. Very rare.
Bidens discoidea (T. & G.) Britt. Rare.
Achillea Millefolium L. Common.
Artemisia caudata Michx. Very common.
Artemisia Stelleriana Bess. Common.
Erechtites hieracifolia (L.) Raf. Common.
Cirsium horridulum Michx. Rare.
Onopordon Acanthium L. Introduced. Rare.

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